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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/530,026	04/04/2005	Mitsuo Inoue	403363	5279
23548	7590	05/02/2006	EXAMINER	
LEYDIG VOIT & MAYER, LTD 700 THIRTEENTH ST. NW SUITE 300 WASHINGTON, DC 20005-3960			HARRISON, MONICA D	
			ART UNIT	PAPER NUMBER
			2813	

DATE MAILED: 05/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

FD

<b>Office Action Summary</b>	<b>Application No.</b> 10/530,026	<b>Applicant(s)</b> INOUE ET AL.	
	<b>Examiner</b> Monica D. Harrison	<b>Art Unit</b> 2813	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 April 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>4/4/05</u>  | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 4, 5 and 8-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Abe (6,825,069 B2).

2. Regarding claim 1, Abe discloses a method for manufacturing a thin-film semiconductor, comprising the step of polycrystallization to focus visible light pulse laser into a line shape on a surface of an object to be irradiated, and repeat irradiation with displacing said visible light pulse laser such that a line-shaped irradiated region is overlapped with a region irradiated at a next timing in a width direction of the line-shaped irradiated region, to form a polycrystalline silicon film on the surface of said object, wherein said step of polycrystallization applies ultraviolet light pulse laser onto a second irradiated region partially overlapping said first irradiated region while or before said visible light pulse laser is applied to said first irradiated region (column 5, lines 31-67 thru column 6, lines 1-41).

3. Regarding claim 2, Abe discloses wherein said visible light pulse laser and said ultraviolet light pulse laser are applied such that, while said object is relatively moved in one direction, said second irradiated region is located more rearward in the direction in which said object moves than said first irradiated region (column 5, lines 50-67 thru column 6, lines 1-41)

4. Regarding claim 4, Abe discloses an apparatus for manufacturing a thin-film semiconductor, comprising: visible light pulse laser irradiation means to focus visible light pulse laser into a line shape on a surface of an object to be irradiated, and repeat irradiation with displacing said visible light pulse laser such that a line-shaped irradiated region is overlapped with a region irradiated at a next timing in a width direction of the line-shaped irradiated region, to form a polycrystalline silicon film on the surface of said object; and ultraviolet light pulse laser irradiation means to apply ultraviolet light pulse laser onto a second irradiated region partially overlapping said first irradiated region while or before said visible light pulse laser is applied to said first irradiated region (column 5, lines 31-67 thru column 6, lines 1-41).

5. Regarding claim 5, Abe discloses object moving means to relatively move said object in one direction; and irradiated region differentiating means to set said second irradiated region to be located more rearward in the direction in which said object moves than said first irradiated region (column 5, lines 31-67 thru column 6, lines 1-41).

6. Regarding claim 8, Abe discloses a method of forming a polycrystalline silicon film from an amorphous silicon film, the method comprising: irradiating a first area of an amorphous silicon film with pulsed visible laser light focused into a line shape on the amorphous silicon film by moving the visible laser light relative to the amorphous silicon film; no later than irradiating the first area with the visible laser light, irradiating a second area of the amorphous

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silicon film, partially overlapping the first area, with pulsed ultraviolet laser light; and subsequently irradiating a third area of the amorphous silicon film with the pulsed visible laser light, wherein the first area is partially overlapped by the third area (column 5, lines 31-67 thru column 6, lines 1-41).

7. Regarding claim 9, Abe discloses including producing the pulsed visible laser light and the pulsed ultraviolet light using a single laser and generating harmonics of the light produced by the laser as the pulsed visible light and the pulsed ultraviolet light (column 5, lines 50-66).

8. Regarding claim 10, Abe discloses wherein the pulsed visible laser light irradiates a location on the amorphous silicon film before the location is irradiated by the pulsed ultraviolet laser light, as the pulsed visible laser light and the pulsed ultraviolet laser light move relative to the amorphous silicon film (column 5, lines 31-67 thru column 6, lines 1-41).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3, 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abe (6,825,069 B2) in view of Yamazaki (6,770,546 B2).

9. Abe discloses all above claimed subject matter except wherein a second harmonic of Nd:YAG is used as said visible light pulse laser, and a harmonic having a shorter wavelength than that of the second harmonic of Nd:YAG is used as said ultraviolet light pulse laser (claims 3

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and 6) and a laser transmitting portion, transmitting said visible light pulse laser and said ultraviolet light pulse laser to allow said visible light pulse laser and said ultraviolet light pulse laser, to travel on an identical optical axis; and prism arranged in a symmetrical positional relation each other across said optical axis to differentiate emitting angles of said visible light pulse laser and said ultraviolet light pulse laser in said laser transmitting portion (claim 7).

Yamazaki discloses a second harmonic of Nd:YAG is used as said visible light pulse laser, and a harmonic having a shorter wavelength than that of the second harmonic of Nd:YAG is used as said ultraviolet light pulse laser (column 4, lines 27-48) and a laser transmitting portion, transmitting said visible light pulse laser and said ultraviolet light pulse laser to allow said visible light pulse laser and said ultraviolet light pulse laser, to travel on an identical optical axis; and prism arranged in a symmetrical positional relation each other across said optical axis to differentiate emitting angles of said visible light pulse laser and said ultraviolet light pulse laser in said laser transmitting portion (column 4, lines 27-48).

It is obvious, at the time the invention was made, for one having ordinary skill in the art, to modify Abe, with the teachings of Yamazaki, for the purpose of forming a laser treatment apparatus.

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monica D. Harrison whose telephone number is 571-272-1959. The examiner can normally be reached on M-F 7:00am-3:30pm.

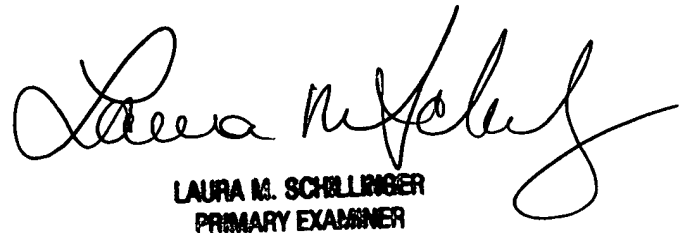
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead Jr. can be reached on 571-272-1702. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Monica D. Harrison  
AU 2813

mdh  
May 01, 2006



LAURA M. SCHLINGER  
PRIMARY EXAMINER